



Session 8

Steinberg

Operation Manual by Ernst Nathorst-Böös and Ludvig Carlson.

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Introduction

Welcome to the Cubase Audio XT Session 8 On-line supplement!

Please use one of the methods described below to quickly find the desired information:

- **Use the Table of Contents provided by the Adobe Acrobat Reader program.**
- **Use the Adobe Acrobat Reader Search function.**
- **Click on a cross-reference (green text) to jump to the respective topic.**

It is of course possible to print out this document or parts of it.

Additional Information on how to use the Adobe Acrobat Reader program can be found in its on-line Help.

What this document contains

This supplement to the Audio Recording book describes the differences between audio recording in Cubase or Cubase Score on one hand and in Cubase Audio XT with a Session 8 system on the other.

If you find any discrepancies between the main Audio Recording book and this document, it is this document you should rely on, since using Cubase Audio XT with the Session 8 is slightly different from other versions.

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- This addendum assumes you are familiar with handling Cubase in general. Below follow only brief explanations of many procedures that are common to all Cubase Audio versions. Please use the main manuals to learn the details.
-

Session 8 Support

Cubase Audio supports all of Session 8's main features: multi-track recording, routing, EQ and mixing. In addition you will find a lot of functionality not included in the original Session 8 software: off-line DSP functions, integrated MIDI recording, integrated mixing automation (even of EQ!) etc.

Requirements

The following equipment is needed, in addition to what is needed for MIDI recording:

- **A complete Session 8 system.**

Cubase Audio can be used with either of the two Session 8 audio interfaces “882 Studio” or the “882 I/O”. When you run Cubase Audio you must specify in the program which of these interfaces you have. The Session 8 XL (ProTools 442 interfaces) is not supported.

- Your Session 8 system must have version number 1.70 or higher.

- **One or more SCSI hard disks for the audio files.**

See the Digidesign Session 8 documentation for details on which hard disks can be used.

Installation

To install the Session 8 hardware and Cubase Audio, proceed as follows:

Preparations

First go through the following steps in the Installation chapter in the getting Started book:

- **Windows 95**
- **Getting the Computer ready**
- **About Printers**
- **Installing the Copy Protection key**
- **Installing the MIDI Interface/synthesizer driver**
- **Connecting the MIDI Equipment**

Installing the Session 8

1. **Install the Digidesign Session 8 hardware and software, as described in the Session 8 manual.**

● Do not under any circumstances disconnect the audio interface from the Session 8 card while any of the system components are turned on. This can cause permanent damage to your Digidesign hardware!

2. **Turn on your system and install and format the SCSI hard drive(s) you plan to use for audio recording.**

Use the “HD Formatter” program provided by Digidesign with the Session 8 software.

3. **Follow the instructions in the Session 8 manual to make sure the SCSI drive(s) “mount” properly.**

4. **Connect your studio as described in the Session 8 manual.**

5. **Run the Session 8 software and make some trial recordings to verify that the system operates properly.**

This is also a good time to familiarize yourself with some of the Session 8 concepts, such as audio routing. These are described in depth in the Session 8 manual.

Installing Cubase Audio XT

Now, please go back to the Getting Started book and perform the steps described in the sections:

- **Installing the software**

During this procedure you will be presented with a dialog asking you which audio hardware you want to use. Select the Session 8 and click OK. If you later need to switch to another hardware system, see [page 12](#).

- **Start Cubase!**
- **Checking MIDI Interface Installation**
- **Saving the Settings**

Audio Settings

Now it is time to make some settings for your Session 8 system.

1. Pull down the Audio menu and select “Hardware Setup...”.



The Hardware Setup dialog.

2. Pull down the Interface pop-up at the top of the dialog and select the type of audio interface you are using:

Menu option:	Description:
None	No audio interface at all.
882 Studio Int. Mix	The original Session 8 Studio interface in Internal Mix mode (see the Session 8 documentation and page 14 for details on the different “modes”).
882 Studio Ext. Mix	The original Session 8 882 Studio interface in External Mix mode.
882 I/O Int. Mix	The Session 8 882 I/O interface in Internal Mix mode.
882 I/O Ext. Mix	The Session 8 882 I/O interface in External Mix mode.

-
- If you select one of the 882 I/O modes, some menu items will be greyed out since they are not available with this interface.
-

The setting you just made is saved automatically so that the correct interface is selected next time you launch Cubase Audio XT.

- 3. Set up the remaining options in the dialog as desired, and close it by clicking OK.**

These settings are essentially equivalents of settings in the Session 8 software. If you are not familiar with these, look up [page 62](#) in this chapter.

- 4. To make sure the audio interface is set correctly, select Reset Device from the Audio menu.**
- 5. Select “Save As” from the File menu, select the File Format “Songs (*.ALL)”, specify the file name “def.all” and save the file in your Cubase Audio directory.**

This way, the settings you just made will appear automatically when you launch Cubase Audio.

Where do I go next?

Now, please proceed to the Audio Recording book included in this package. For differences between Cubase (Score) and Cubase Audio XT, see the following text.

Switching to another Audio Hardware System

If you later want to run Cubase Audio XT with some other audio hardware than the one specified at installation, there are two ways:

By reinstalling

This is the safest and simplest way. Simply reinstall the program, and specify the same destination directory. For files you might have changed, like the def.all startup Song, you will be asked if you want to keep the version already installed or install a new one.

By changing the cubaseda.ini

This is the more advanced option.

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- If you don't feel confident about changing the "cubaseda.ini" file, please use the reinstall method described above.
-

In your Cubase Audio XT directory you will find a folder called "audio". Inside this is *one folder for each* of the audio hardware systems that Cubase Audio XT supports. Inside each of these folders is a file called "adevice.dll". Which audio hardware the program uses depends on which of these "adevice.dll" files that is loaded on startup.

The instruction on which file to load is found in the “cubaseda.ini” file. If you change this, Cubase Audio XT will use another system.

Proceed as follows:

- 1. Make sure Cubase Audio XT is not running.**
- 2. Open a text editor, for example Notepad.**
- 3. Locate and open the file “cubaseda.ini”, located in your Cubase Audio XT folder.**
- 4. Locate the PREFS section.**
- 5. Change the path on the “AudioPrefs=” line so that it points to the directory corresponding to the audio hardware you now want to use.**
- 6. Save the file.**
- 7. Launch Cubase Audio XT.**

Providing the path is typed in correctly, the other hardware will now be used.

Audio Routing and Audio Channels

The Session 8 is an eight channel system, that is, eight different recordings can be played back at the same time. You can also record on up to eight channels simultaneously. Each channel is monophonic, that is it can only play back one mono recording. For a stereo recording you need to use two channels.

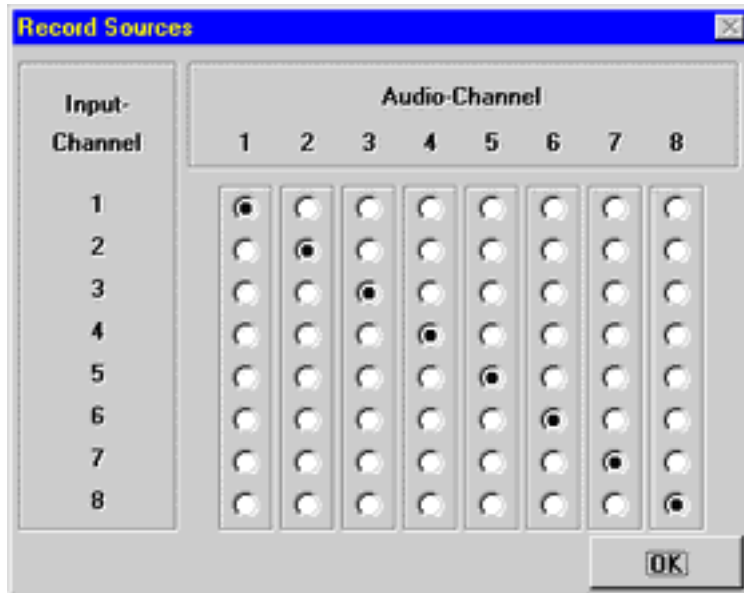
Audio routing (the use of inputs and outputs) is dependent on which type of Session 8 audio interface you are using:

Audio Routing with the 882 I/O

Inputs handling in Internal and External Mix mode

1. Select “Routing...” from the Audio menu.

A window appears which allows you to connect audio interface inputs to Cubase recording channels.



The 882 I/O Input Routing window.

2. To set up the connections, click in the “grid” made up by the rows and columns.

- In the vertical column to the left the various inputs on your audio interface are listed.
- The columns correspond directly to the audio channels in Cubase Audio XT. If you for example route an input to “Audio Channel 3”, it can be recorded on a Track set to Channel (Chn) 3 in the Arrange window.

Output handling in External Mix Mode

In External Mix mode, the outputs are simply connected directly to the corresponding Session 8 audio channel. For example, a signal playing back on channel 3 will appear on output 3 on the audio interface.

Output handling in Internal Mix Mode

The eight outputs carry various signals in internal Mix Mode:

- Audio outputs 1 and 2 contain the complete stereo mix.
- Audio outputs 3 and 4 contain the Cue mix. This is most often used to provide musicians with a mix of already recorded tracks when performing overdubs.
- Audio outputs 5 to 8 carry the signal from Effect Send 1 to 4.

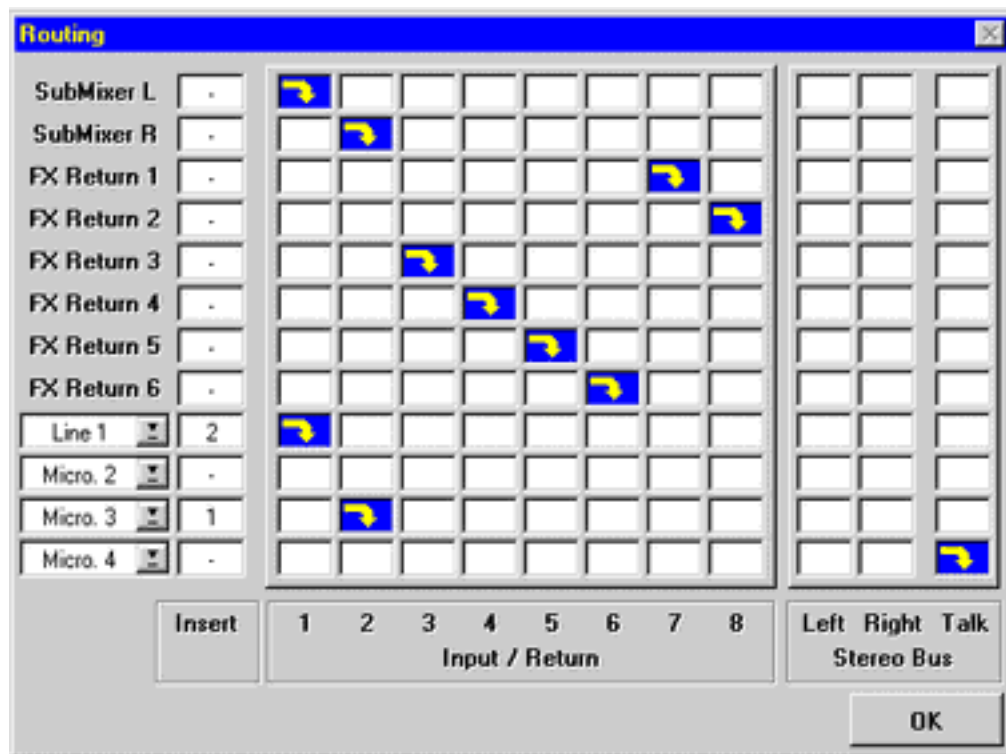
These functions are described in detail in the Session 8 manual and in the section about the Mixers, later in this supplement.

Audio Routing with the 882 Studio

If you have the 882 Studio, there's a special routing window used to decide which signals go where:

- 1. Select "Routing..." from the Audio menu.**

A window appears which is the equivalent of the Session 8 software's Routing window.



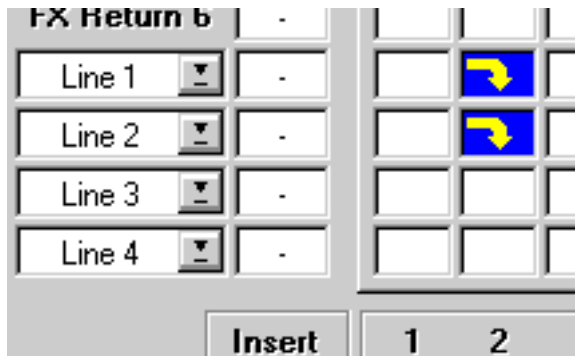
The 882 Studio Routing window.

2. To connect the audio interface inputs to recording channels in Cubase Audio, click in the “grid” made up by the rows and column.

- In the vertical column to the left the various inputs on your audio interface are listed.
- Along the bottom row you have the recording inputs/returns, plus the Left and Right channel of the stereo bus and the talkback bus (“Talk” - described in detail later in this text).

The inputs/returns correspond directly to the audio channels in Cubase Audio XT. If you for example route a signal to “Input/Return 3”, it can be recorded on a Track set to Channel (Chn) 3 in the Arrange window.

- Many audio interface inputs can be routed to the same recording input/return.



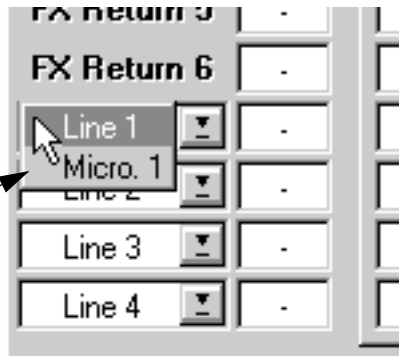
In this example, front panel Input 1 and 2 are both connected to channel 2.

- An audio interface input can only be connected to one recording input/return.

Line/Mic Inputs

The last four audio interface inputs, can be switched between “Line” and “Micro.” (Microphone) by selecting from the pop-up menus in the Routing window. This is used to select the corresponding front panel input on the audio interface.

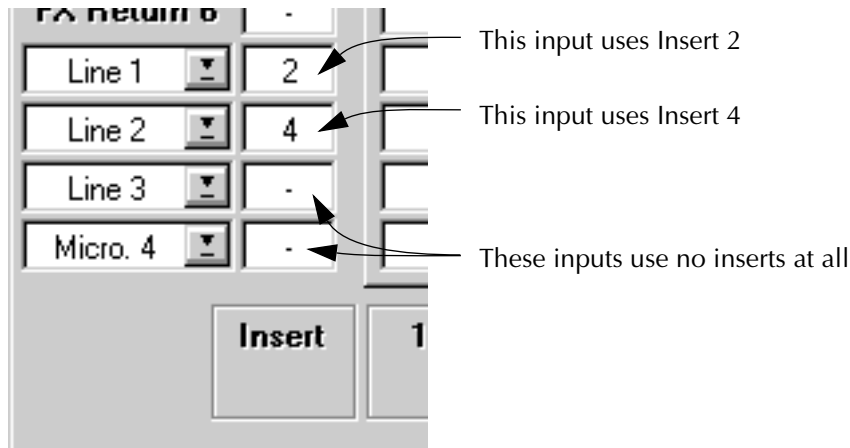
You can switch any input between “Line” and “Micro.”. —————→



Using Insert Points

To add an insert point between the audio interface input and the recording input, use the Insert column to set a number from 1 to 4. The number represents the Insert In/Out on your interface.

To disable the insert point, set the input to “-”.



For more information on the various possibilities provided by routing, using inserts, the Internal/External Mix modes etc, see your Session 8 manual.

Using Talkback

Cubase provides the same Talkback function as in the Session 8 software, that is, if you need to communicate with musicians in another room, you can route one of your audio inputs to the talkback channel and easily activate/deactivate the input, as needed.

-
- Talkback is only available with the 882 Studio, not with the 882 I/O.
-

1. **Open the routing window, and connect one of the inputs on the audio interface to the “Talk” (talkback) bus.**



In this example, Microphone Input 4 is connected to the Talk bus.

2. **If you want to use a microphone which is connected directly to the audio interface, make sure that input is set to “Micro.”.**

3. Select “Show Talkback” from the Audio menu.

The Talkback window appears. This is a “floating window”, that is, it always appears on top of all other windows.

4. When you need to talk to the musicians, click on the Talkback window so that it’s text switches to “On”. To turn talkback off, click again.



Talkback activated.

5. To hide the Talkback window, select “Hide Talkback” from the Audio menu.

This also deactivates Talkback. If you later open the window again, Talkback is re-activated.

Recording and Playback

Specifying a recording file

Record file names and locations can be specified in two places:

- In the Inspector, by clicking the “Filename” button.
- In the Monitor window, by clicking the “Filename” button, at the top of the window, that corresponds to the channel you plan to record on.

A file set up for recording as displayed in the Inspector and in the Monitor



Either way, a standard file dialog appears, where you can specify a name and location for the file.

-
- Audio files must be saved on the hard disk connected to the Session 8 card. You cannot record on your internal hard disk.
-

Monitoring

The Session 8 provides monitoring, that is it allows you to control how the audio passes through the unit when recording.

Internal Mix mode

If you connect a source for recording to the inputs of the Session 8 and activate monitoring for that channel, the input signal(s) for that channel are routed directly to the Mix. With monitor activated, (see below) you will then hear *both* the recorded Track and the “live” input, in the Mix. This allows you to listen to the input signal when preparing for, and actually performing the recording.

The levels of each channel are controlled by the channel controls in the “Main” mixer map (see [page 43](#)) and the level settings in the Monitor window.

When you *deactivate* monitoring for a channel, its input are also routed to the mix, but now, the level is controlled by the FX Return faders in the “Main” mixer map. This allows you to use the inputs on your audio interface as effect returns during mixdown (see the Session 8 manual for details).

External Mix mode

If you activate Monitoring in External Mix mode, you will hear the input signal for that channel in the Mix, instead of the recordings already made. This allows you to listen to the input signal when preparing for, and actually performing a recording. But please note the following:

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- If you have your audio interface set to External Mix mode and activate Monitoring for a channel, this channel will not play back. Therefore do not forget to deactivate Monitoring before playing back a recording you made on that channel.
-

Manual monitoring

There are two ways to *manually* activate and deactivate Monitoring:

- **With the right Track selected, click the Monitor button in the Inspector.**
- **Click the corresponding Monitor button in the Monitor window.**

Automatic Monitoring

If a Track is set up for recording (a file is prepared, the Track is selected etc.), monitoring is *automatically* activated for that channel, regardless of the state of the Monitor button.

Recording Levels

For all references to recording level adjustments, see your Session 8 manual. However, please note that when monitoring is activated, the signal passes through the A/D and D/A converters on the Session 8, which means you can listen to the output of the unit to check for any degradation in signal quality due to improper levels.

Stereo and Multi Track recording

The Session 8 is essentially a mono system, that is, each channel can only play back a mono recording. However, you can record on more than one channel at a time. This can be used to create stereo and other multi-channel recordings.

Multi Track recording is performed as described in the Audio Recording book. The following rules apply:

- You must set each Track you want to record onto a different channel number and activate recording in the “R” column for each of them.
- The channel numbers settings correspond to the recording channels, just as with single Track recording. By using the routing window, each channel can essentially record from any input.
- Monitoring and activating recording is done just as with single Track.
- One mono file is created per Track you record on.



Four Tracks set up for recording.

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- With the Session 8, you should not *record* on an Audio Track set to Channel "Any".
-

Editing Stereo and Multi-Track Recordings

There are basically two ways to get all the recordings in a stereo or Multi Track recording into the Audio Editor at the same time:

- **Select the Parts (on multiple Tracks) and then open the Audio Editor.**
See the main Audio Recording book.
- **Perform a Mixdown and then open the new composite “Any” Track in the Audio Editor.**
See the chapter Arrangement Editing in the Audio part of the Cubase manual.

Punch In and Out

You can not punch in “on the fly” (activate recording manually during playback) with the Session 8. You must either activate recording from “Stop mode”, or set up the Left/Right Locator and perform an automatic punch-in/out.

Standby Record

Standby Record allows you to record audio files to your hard disk without setting up Tracks or activating Play. This is practical for example if you want to capture one or more audio samples off a CD or tape, before adding them to a certain Track.

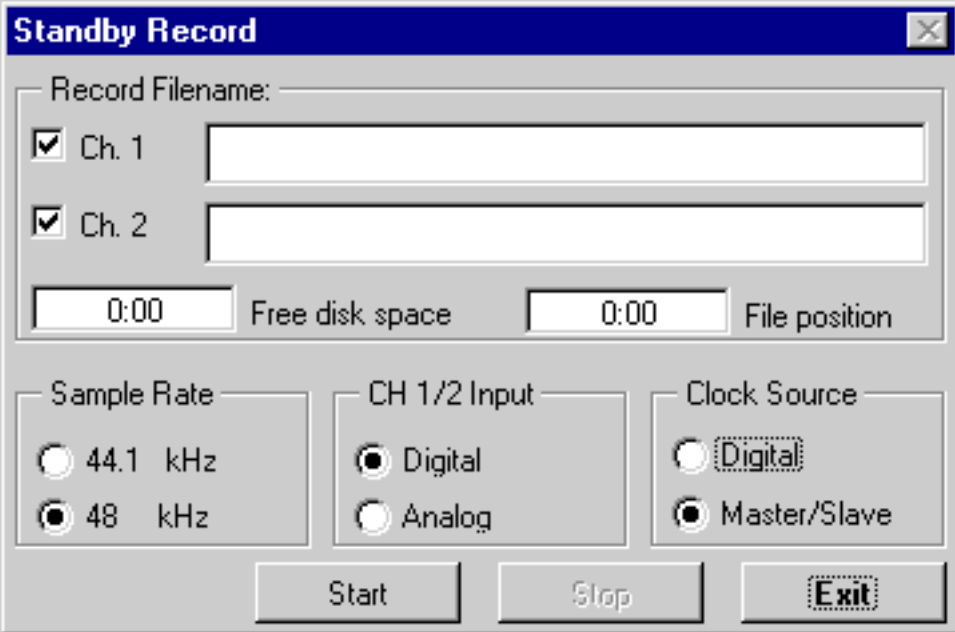
Recording Inputs

Audio *channel* 1 and/or 2 are always used for Standby Recording. To set up which *inputs* to record, use the routing window to connect the desired inputs to channels 1 and/or 2.

Recording Procedure

Proceed as follows:

1. Open “Standby Record” from the Audio menu.



The image shows a Windows-style dialog box titled "Standby Record". It has a blue title bar with a close button (X) in the top right corner. The dialog is divided into several sections. At the top, there is a label "Record Filename:" followed by a text input field. Below this, there are two checked checkboxes: "Ch. 1" and "Ch. 2", each followed by a text input field. In the middle, there are two digital display boxes, both showing "0:00". The first is labeled "Free disk space" and the second is labeled "File position". Below these, there are three groups of radio buttons. The first group is labeled "Sample Rate" and has two options: "44.1 kHz" (unselected) and "48 kHz" (selected). The second group is labeled "CH 1/2 Input" and has two options: "Digital" (selected) and "Analog" (unselected). The third group is labeled "Clock Source" and has two options: "Digital" (unselected) and "Master/Slave" (selected). At the bottom of the dialog, there are three buttons: "Start", "Stop", and "Exit". The "Exit" button has a dashed border.

The Standby Record dialog.

- 2. If you want to record in mono, activate either of the check boxes “Ch. 1” (Channel 1) *or* “Ch. 2” (Channel 2). If you want to record in stereo, activate both.**
- 3. Click the white name field for the first channel you want to record.**
A file dialog opens up.
- 4. Use the file dialog to specify a recording file.**
Remember that the recording files must always be on the Session 8 drive(s).
- 5. Repeat with the other channel, if necessary.**
- 6. Select a Sample Rate, Input type and Clock Source.**
See [page 62](#) for details about these options.
- 7. Click the Start button.**
- 8. Record.**
- 9. When you are done, click Stop.**
- 10. Close the dialog.**

The new file now appears in the Pool from where it can be edited, processed or dragged into an Audio editor or the Arrange window.

File Handling Differences

Contrary to what the Audio Recording book states, Song and Arrangement files (Cubase files) should not be saved on the same hard disk as the digital audio files (Digidesign do not “expect” to have any other application’s files on the hard disk connected to the Session 8 hardware, so this can cause problems). Please save all Cubase files on your internal hard disk(s). When you back up, don’t forget to include both the audio files (on the Session 8 hard disk) and the Cubase files (on your internal hard disk).

Audio Editor Differences

The only difference between the Audio Editor when using Cubase Audio XT with the Session 8, compared to using Cubase/Cubase Score with audio cards, is that there are no stereo events, as described on [page 27](#).

Using EQ

The Session 8 hardware provides equalization (filtering) which can be accessed from Cubase Audio.

- If the Sample Rate is 44.1kHz, you have access to six EQ modules.
- If the Sample Rate is 48kHz, you have access to two EQ modules.

Specifying the Signal Chain

First you need to specify where in the signal chain you want the EQ modules inserted:

1. Select “EQs...” from the Audio menu.

The “EQs” dialog appears.

2. In the dialog box, specify for each of the two or six available EQ modules, where you want it in the signal chain:

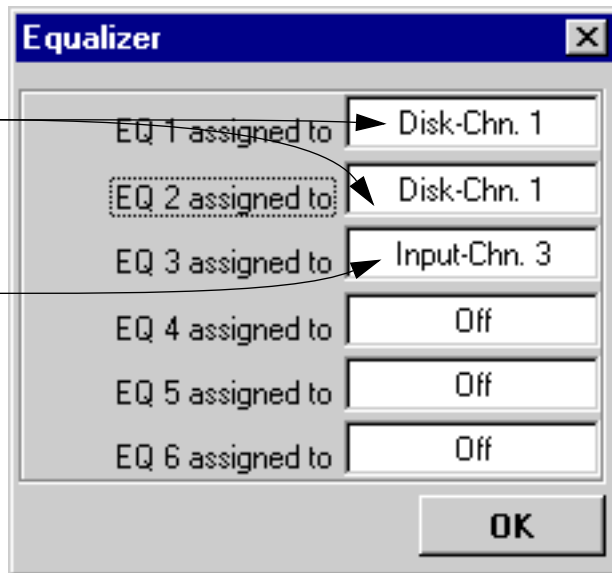
The options are:

- On the output of any of the eight audio channels (Disk-Chn 1 to 8), which means EQ will be applied during playback, or...
- On the input of any of the eight input channels (Input-Chn. 1 to 8), which means EQ will be applied to the recordings you make on that channel.

You can set up four modules (at 44.1 kHz) to the same setting, which means they are inserted in series in the signal chain. This allows you to create some very complex filters.

In this example, Tracks playing back on Channel 1 will use these two EQ modules...

...while Tracks being recorded on Channel 3 will use this EQ module.



Making Settings for each EQ Module

You set up the EQ in Cubase's Mixer window.

- 1. Open the "Setup Mixer Maps" dialog (on the Options menu).**
- 2. Click the Load button.**
- 3. Locate the file "882eqs.mix" among the other Session 8 Mixer Maps in the "mixermap/digidesn/session8" directory in your Cubase Audio directory and open it.**
- 4. Close the "Setup Mixer Maps" dialog.**
- 5. Create a Mixer Track.**
- 6. Set the Mixer Track to Output "882 EQs" (the Mixermapping you just loaded).**
- 7. Create a Part on the Track.**
- 8. Double click on this Part to open the Mixer window.**
- 9. Make sure the Mixer is in Local Mode.**

10. Use the controls in each section to adjust the EQ.

The six modules in the Mixer Map represent EQ module one to six in the “EQs” dialog box.

EQ Mixer Objects



The controls in each Module are as follows:

Control:	Description:
-----------------	---------------------

EQ Type	The characteristics of the filter. Narrow Band, Wide Band, LoShelf or HiShelf.
---------	--

On/Off	In “On Mode”, the EQ is activated. In “Off” mode the EQ is bypassed.
--------	--

Gain	The amount of EQ applied.
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Freq	The center or shelving frequency for the EQ.
------	--

Level	The output level from this EQ module.
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For more information on the exact use of these controls, see the Session 8 manual.

-
- It may happen that boosting a certain frequency band creates distortion, especially when several EQs are chained one after another. If this happens use the Level controls on each module to reduce the output volume, until the distortion disappears.
-

Automating EQs

- **If you have set up a certain “fixed” EQ for your Tracks (in the Mixer window), and want to make this a permanent part of the Arrangement, we recommend you to turn the settings into a Snapshot and “write” the Snapshot in at the beginning of the Song.**
- **You can also create dynamic EQ changes, by recording yourself “playing” the Mixer Objects or by using Snapshots. However, do not expect the Session 8 hardware to handle drastic dynamic EQ changes perfectly smoothly.**

For more information on the Mixer, see the main Cubase manual.

Mixing

Playback levels can be adjusted in three places:

- In the Audio Editor
- In the Mixer window
- In the Monitor window

The Event Volumes in the Audio Editor

As described in the chapter about the Audio Editor in the Audio Recording book, each *Event* can have its own independent volume curve. This allows you to have individual control over the volume of each single Event in your production (including fade in and out), regardless of which audio channel each Event is played back on.

The Mixer Window

The Mixer window provides full control of volumes, panning, effect sends, etc. (when applicable). There are no controls specifically for Muting, but by automating volumes you can achieve the same effect.

Changes made in the Mixer window are applied to each *audio channel* in your system. If you for example Pan a certain channel to the left in the stereo image, all events that play back on this audio channel will appear in the left channel in the mix.

All controls in the Mixer window can be automated, for complete computer controlled mixdown.

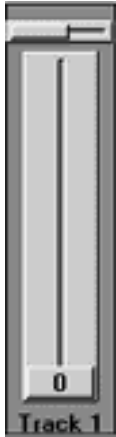
The Monitor Window

The Monitor window is probably best used when recording, for quickly setting up a balance between the audio channels. There are only Volume and Mute settings, and the Monitor window can not be automated. The Mute buttons in the Monitor window can be used as a quick temporary way to silence all output from an audio channel.

The Mixer Maps

The following Session 8 Mixer Maps are provided with the program. They are used just as any other Mixer Maps (see the main Cubase manual).

882 Extern. Mix (File name: "882ext.mix")



This Mixer Map is the one to use if you have your audio interface in External Mix mode. It provides the following controls for each channel:

Control:	Description:
----------	--------------

Pan	Panning is adjusted with the horizontal fader, located just above the main volume fader for each channel. This controls the panning of the channel within its stereo pair. For example, the Pan control for channel 1 adjusts the balance between output 1 and 2, for this audio channel. To get truly separate outputs from each channel, pan each stereo pair hard left/right.
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Volume	This controls the output volume for the channel.
--------	--

882 Bus Mixer (File name: "882main.mix")



This Mixer Map is your main mixer when you have the audio interface set to Internal Mix mode. The following controls are available for each channel:

Control: Description:

Fx Send 1 to 4 The group of four small knobs at the top of each channel strip are the effect send controls. These adjust the amount of signal from the channel to outputs 5 to 8, respectively. Use these for feeding external effects, such as reverbs and similar.

For these controls to have any effect, the corresponding main effect send controls have to be raised, see below.

Pan Panning is adjusted with the horizontal fader, located just above the main volume fader for each channel. This controls the panning of the channel in the stereo mix.

Volume This controls the output volume for the channel.

In addition to the above, there are six Master controls, located at the right side of the map:



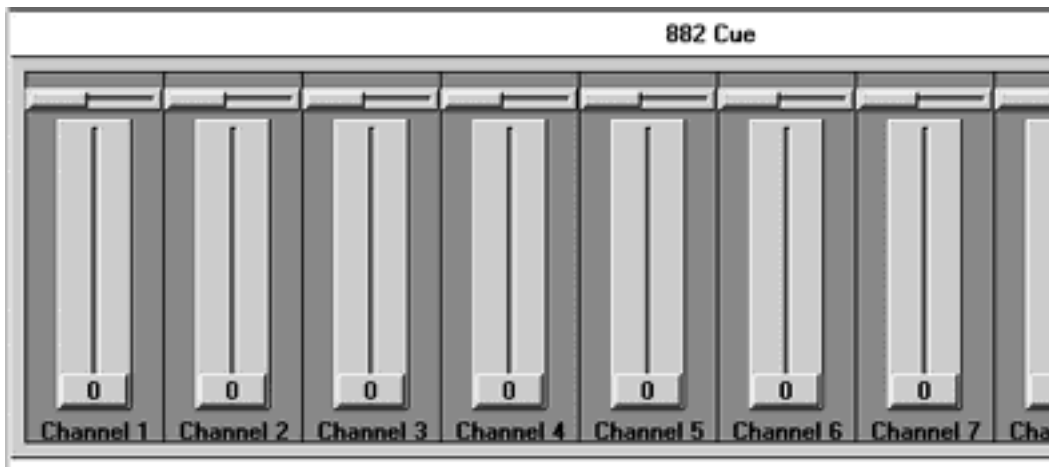
Control:	Description:
Master Fx Send 1 to 4	The group of four small knobs at the top are the master effect send controls. These adjust the total amount of effect send, from all channels together.
Master Volume	These two faders control the overall volume for the left and right channels in the mix. Use these for example for a fade out at the end of a song.

To the right of the mixer controls you will find sections for the Input/Returns, each one comprising the same controls as the main audio channels.



882 Cue Mixer (File name: “882cue.mix”)

This mixer map is used for setting up the Cue signal provided from output 3 and 4 on the audio interface. For details on the Cue mix, see the Session 8 manual.



Pan	Panning is adjusted with the horizontal fader for each channel. This controls the panning of the channel in the cue mix.
-----	--

Volume	This controls the cue volume for the channel.
--------	---

In addition to the channel controls, there are two master faders controlling the overall cueing level.

882 EQs (File name: “882eqs.mix”)

This is the Mixer map used for adjusting the Session 8’s built in equalizers. See [page 34](#) for details.

Advanced Mixing Information

The following information is provided for those who want to create their own Mixer Map Objects, or use other methods to control the Session 8 from Cubase (for example by inserting events in List Edit).

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- This information is for advanced users only. You do not need to understand the following to use Cubase Audio and the Session 8 to its full extent.
-

Cubase controls Session 8's mixing and EQ facilities via a "virtual" MIDI port. If you check the Output columns, for example for a MIDI Track, you will note that there is always an Output called "S8MIXER". If any MIDI data is sent from Cubase to this port, it will be used to control the Session 8 directly.

Each control in the Session 8 is accessed via a MIDI Control Change number as listed in the table below. The MIDI channel number is used to direct the data to a certain audio channel in the Session 8 hardware.

This means that if you create a Mixer Object, set it to Output "S8MIXER", make it transmit Control Change messages on a certain MIDI channel and specify one of the Control Change numbers in the list below, this Object will control that function in the Session 8 hardware.

Likewise, if you set a regular MIDI Track to Output to "S8MIXER" and enter the proper Control Change information into the Track, this Track will control the Session 8 hardware.

Messages for audio interfaces in Internal Mix mode

Session 8 Function	Control Change Number		Channel Range	Min/Max value
	Decimal	Hex		
Channel Stereo Bus Volume	102	66	1 - 8	0 - 127
Channel Stereo Bus Panning	103	67	1 - 8	0 - 127
Channel Cue Volume	104	68	1 - 8	0 - 127
Channel Cue Panning	105	69	1 - 8	0 - 127
Stereo Bus Master Volume	106	6A	1 - 2	0 - 127
Cue Master Volume	106	6A	3 - 4	0 - 127
FX Send Master Volume	106	6A	5 - 8	0 - 127
Channel Input Gain	107	6B	1 - 8	0 - 127
Channel EQ "Gain"	108	6C	1 - 6	0 - 127
Channel EQ Frequency	109	6D	1 - 6	0 - 127
Channel EQ Type	110	6E	1 - 6	0 - 3
Channel EQ Output Level	111	6F	1 - 6	0 - 127
Channel EQ Bypass	112	70	1 - 6	0 or 127 (Off/On)

Session 8 Function	Control Change Number		Channel Range	Min/Max value
	Decimal	Hex		
Channel FX Send 1	113	71	1 - 8	0 - 127
Channel FX Send 2	114	72	1 - 8	0 - 127
Channel FX Send 3	115	73	1 - 8	0 - 127
Channel FX Send 4	116	74	1 - 8	0 - 127

Messages for audio interfaces in External Mix mode

Session 8 Function	Control Change Number		Channel Range	Min/Max value
	Decimal	Hex		
Channel Volume	102	66	1 - 8	0 - 127
Channel Pan (1/2, 3/4 etc).	103	67	1 - 8	0 - 127
Channel Input Gain	107	6B	1 - 8	0 - 127
Channel EQ "Gain"	108	6C	1 - 6	0 - 127
Channel EQ Frequency	109	6D	1 - 6	0 - 127
Channel EQ Type	110	6E	1 - 6	0 - 3
Channel EQ Output Level	111	6F	1 - 6	0 - 127
Channel EQ Bypass	112	70	1 - 6	0 or 127 (Off/On)

Bouncing

Bouncing is Session 8 terminology for mixing down many audio recordings to one single audio file.

Let's say you run out of audio channels, but you still need to record more. If you for example have recorded background vocal harmonies, you could probably do a bounce of all the background vocal tracks to one or two Tracks (mono or stereo) and instead use this composite recording in the final mix. The Tracks previously used for all the background vocals can then be used for adding new instruments.

If the mixdown (the “bounce”) should be in stereo, up to six Tracks can be bounced. If the mixdown should be in mono, up to seven Tracks can be bounced.

In the following text we will call the originally recorded Tracks *source Tracks* and the Tracks you “bounce to”, *destination Tracks*. Proceed as follows:

Preparations

- 1. Record all the source Tracks.**
- 2. If you want to apply EQ separately to the source Tracks, set this up so that they play back as intended.**

3. **If you want to create some special (maybe dynamic) mixing, that you want to be part of the destination Track(s), set this up for the source Tracks, as desired.**
4. **If the destination should be in stereo, adjust panning.**
5. **If the destination should be in mono, adjust the panning of all source Tracks so that they play back on one side of the stereo image only.**
In other words, pan them *all* hard left *or* right depending on the destination audio channel, see below.
6. **Mute all recorded Tracks that should *not* be part of the bounce.**

Setting Up the Arrangement

1. **Set up one (mono) or two (stereo) destination Tracks for recording (specify files etc.).**
 - Do not set the destination Track(s) to the same channel number as any of the source Track(s).
 - If a destination Track is set to an odd channel number (1, 3, 5, 7) it will record from the left side of the stereo image.
 - if a destination Track is set to an even channel number (2, 4, 6, 8) it will record from the right side of the stereo image.
2. **Activate Bounce Mode from the Audio menu.**

3. If you record on two destination Tracks, activate MultiRecord and set the Tracks to record enable (see the Audio Recording book). If you only record on one destination Track, make sure it is selected.



In this example, the first six Tracks will be recorded as a stereo mix onto the Tracks “BVoxMix L” and “BVoxMix R”. “MainMix L” and “MainMix R” will not be included in the bounce, since they are muted.

4. If you want to do the bounce as an automatic punch in/out, set up the Left and Right Locator and activate In and Out on the Transport Bar.

Recording!

1. Perform the recording.
2. Deactivate Bounce Mode.
3. Mute all the source Tracks and possibly also the Mixer Track that adjusted their volume, panning etc.
4. Play back the destination Track.

You can – if you like – now delete the source Tracks and their audio files. However, you might just as well keep them in the Arrangement, muted, if you have hard disk space enough to hold the files. This will allow you to later go back and redo the bounce, if needed.

Please note that simply bouncing one Track to another is a way to make an EQ setting, or for example a dynamic volume change, an integral part of the audio file. More tips, tricks and advice on bouncing can be found in the Session 8 manual.

Synchronization

Synchronizing digital audio material with the “real world” raises many issues which are not immediately apparent when using MIDI only systems. This is a big subject, and we will only be able to touch upon it here.

Syncing Cubase vs Syncing the Session 8

When you lock Cubase to time code, for example coming from an audio or video tape recorder, it will replace its internal “absolute time” clock with an external one – the time code. If the time code is slow, fast, or fluctuates in speed, this will affect Cubase’s playback speed likewise – it should, that’s the whole purpose of synchronization!

There are a number of situations where you will encounter time code that varies slightly in speed: when moving a project from one tape recorder to another, when using a tape for long periods of times so that it stretches and wears out, when stripping tapes with different time code generators, etc.

In a system where Cubase only handles MIDI, these differences will be too small to be noticed. However, as soon as you bring digital audio into the picture, things get more complicated.

When Cubase asks the Session 8 to play back an audio file it will only specify which file to start and *when*. Once the audio is playing, it is not being clocked by Cubase, but by the Session 8 itself. This means that if Cubase's playback speed varies (because it is synchronized to time code coming in from another device), or if the speed is not the same as when you recorded the audio file, the digital audio will drift out of sync with the tape recorder and MIDI.

Let's take an example of a situation where the SMPTE time code is running 0.001% fast when you play back a sound file, compared to when you recorded it. When set against a perfectly stable sound file, we find that this tiny error grows, within 16 bars, to become an audibly disturbing 27 tick positioning error (at 120 BPM). By 64 bars into the song we have a 100 tick error.

So, are there any solutions to this problem? Fortunately – yes!

Resolving Digital Audio via Word Clock

The Session 8 can receive and send *Word Clock*, via its Slave Clock In and Out (“continuous resynchronization”). To use this feature, you need to connect a device, such as the Digidesign SMPTE Slave Driver to the Session 8, and the digital audio playback will follow the time code fluctuations. More details in the Session 8 manual.

Other Solutions

If you don't have access to a SMPTE Slave Driver or equivalent, there are still a few things you can do to minimize this problem:

- **Get the tempo right before you record any audio.**
Do not change the tempo in Cubase Audio after any audio recordings have been made.
- **Use the same type of synchronization through the entire “production”.**
- **Do not switch Cubase Audio from internal sync to sync to time code after you have recorded digital audio.**
- **Keep your Audio Segments as shorts as possible.**
Sometimes it might help chopping up a long take into smaller ones, with the scissors in the Arrange window.

File Compatibility

All Cubase specific files (Song files, Arrangement files, Pools etc) are compatible between different versions of Cubase, even on different platforms (see Appendix B in “Getting into the Details”). There are a few things to note specific to audio, though.

- The Session 8 uses Wave (WAV) files where some other versions of Cubase Audio XT use AIFF files. You might need to convert the files before playing them back on some other audio hardware.
- Normally, Cubase is not responsible for the actual clocking of the digital audio. Therefore, playback speed of audio might differ slightly between systems, which might make the audio in a Song created on another system drift noticeably out of sync. Please observe the precautions you must take for proper synchronization, as described above.
- The sample rates used by the two systems must correspond.

Menu and Dialog Reference

This section lists the Session 8 specific items on the Audio menu.

Reset Device

This item should be used in one of two cases:

- If you find you have communication problems with the audio interface.
- If the settings on the audio interface don't seem to be in accordance with those made in Cubase's Hardware Setup dialog.

Hardware Setup



The Hardware Setup dialog.

The Hardware Setup dialog contains a number of settings for the Session 8 hardware. For all of these there are equivalents in the Session 8 software. See the Session 8 manual for more detailed explanations of these functions:

Option:	Description:
Interface	This is used to specify which Digidesign audio interface you use and which mode you want it set to, as described on page 6 .
CH 1/2 Input	This is used to decide if channel 1 and 2 should record from the analog inputs or from the Digital (S/PDIF) inputs on the audio interface. If you want to record digitally, you must record via channel 1 and 2, no other channels can access the digital inputs.
Clock Source	This should normally be set to "Master/Slave". The only case when it should be set to Digital is when you are recording from the digital inputs. This will cause the Session 8 hardware, to read its "sample rate clock" from the source you are recording, instead of using its own internal clock.

Option:	Description:
Sample Rate	<p>This setting determines if the recordings will be done with a Sample Rate of 44100 or 48000 Hz. The main reason for using one or the other of these is to stay compatible with other devices. If you for example plan to master your recordings digitally to a DAT-recorder which only supports 48kHz, then you have to make all Session 8 recordings at 48kHz.</p> <p>You can not change this setting in the middle of a project. If you do, the files you have already recorded will play back at the wrong pitch.</p>
Phones	<p>This is used to set if the Phone Output should carry the signal from the Monitor Mix or the Cue Mix. Only available with the 882 Studio audio interface.</p>
Monitor	<p>This is used to set what signal the Monitor Output on the audio interface should provide: the same signal as the Session 8's Mix output (Mix) or the source plugged in to the Tape Input on the 882 Studio interface (Tape).</p> <p>This switch should normally be set to Mix. But, you might for example have recorded a mix on a DAT recorder which has its outputs connected to the Tape Inputs on the audio interface. You can then listen to the mix on tape by setting this switch to "Tape" and activate playback on the tape recorder.</p>

Routing

This dialog is used to set up how audio should be routed between inputs, channels and outputs. It is described on [page 14](#).

Equalizer

This dialog is used to set up the Session 8's EQ section. See [page 34](#).

Show/Hide Talkback

This opens up the Talkback window as described on [page 22](#).

Bounce Mode

This is used to mix a number of recordings down to one or two (stereo) audio files as described on [page 53](#).

Standby Record

This dialog is used to record audio using the Session 8 without having play activated in Cubase. See [page 30](#).